We claim:

1. A medicament for intracorporeal application, the medicament comprising at least one halogenated xanthene as a primary active component, wherein said medicament is useful for high energy phototherapeutic treatment, using applied ionizing radiation, of human and animal tissue.

2. The medicament of Claim 1 wherein said halogenated xanthene is present in a concentration of greater than about 0.001% to less than about 20%.

3. The medicament of Claim 1 wherein said halogenated xanthene comprises Rose Bengal.

4. The medicament of Claim 1 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

5. The medicament of Claim 1 wherein said halogenated xanthene includes at least one compound selected from the group consisting of Fluorescein; 4',5'-Dichlorofluorescein; 2',7'-Dichlorofluorescein; 4,5,6,7-Tetrachlorofluorescein; 2',4',5',7'-Tetrachlorofluorescein; Dibromofluorescein; Solvent Red 72; Diiodofluorescein; Ethyl Eosin; Erythrosin B; Phloxine B; Rose Bengal; 4,5,6,7-Tetrabromoerythrosin; Mono-, Di-, or Tribromoerythrosin; Mono-, Di-, or Trichloroerythrosin; Mono-, Di-, or Trifluoroerythrosin; 2',7'-Dichloro-4,5,6,7-Tetrafluorofluorescein; 2',4,5,6,7,7'-Hexafluorofluorescein; and 4,5,6,7-Tetrafluorofluorescein.

6. The medicament of Claim 1 further comprising at least one targeting moiety coupled to said halogenated xanthene.

7. The medicament of Claim 6 wherein said targeting moiety is selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors, carbohydrate complexing agents, lipid receptors, lipid complexing agents, protein receptors, protein complexing agents, chelators, encapsulating vehicles, short-chain aliphatic hydrocarbons, long-chain aliphatic hydrocarbons, aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitriles, azides, hydrophilic moieties and hydrophobic moieties.

8. The medicament of Claim 1 wherein said medicament is formulated in a delivery vehicle selected from the group consisting of liquids, semisolids, solids and aerosols.

9. The medicament of Claim 8 wherein said vehicle is selected from the group consisting of aqueous suspensions, non-aqueous suspensions, solutions, creams, ointments, gels, syrups, suppositories, tablets, capsules and micro-droplet sprays.

10. The medicament of Claim 1 wherein said halogenated xanthene is in a delivery vehicle that includes an adjuvant selected from the group consisting of builders, stabilizers, emulsifiers, dispersants, preservatives, buffers, electrolytes, tissue penetrating agents and tissue softening agents.

11. The medicament of Claim 1 wherein said medicament is useful for the treatment of indications selected from the group consisting of conditions affecting the skin and related organs, conditions affecting the mouth and digestive tract and related organs, conditions affecting the urinary and reproductive tracts and related organs, conditions affecting the respiratory tract and related organs, conditions affecting the circulatory system and related organs, conditions affecting the head and neck, conditions affecting the endocrine and lymphoreticular systems and related organs, conditions affecting connective tissues, conditions affecting tissue surfaces exposed during surgery, and conditions related to microbial, viral, fungal, and parasitic infection.

12. The medicament of Claim 1 wherein said ionizing radiation is applied x-ray irradiation.

13. The medicament of Claim 1 wherein said ionizing radiation is applied gamma irradiation.

14. The medicament of Claim 1 wherein said ionizing radiation has an energy of greater than approximately 1 KeV and less than approximately 1000 MeV.

15. The medicament of Claim 1 wherein said intracorporeal administration comprises a route of administration selected from the group consisting of intravenous injection, intraperitoneal injection, intramuscular injection, intracranial injection, intratumoral injection, intraepithelial injection, transcutaneous delivery, per oesophageal administration, intraabdominal administration, intraapendicular administration, intraarterial administration, intraarticular administration, intrabronchial administration, intrabuccal administration, intracapsular administration, intracardial administration,

intracartilaginous administration, intracavitary administration, intracephalic administration, intracolic administration, intracutaneous administration, intracystic administration, intradermal administration, intraductal administration, intraduodenal administration, intrafascicular administration, intrafat administration, intrafilar administration, intrafissural administration, intragastric administration, intraglandular administration, intrahepatic administration, intraintestinal administration, intralamellar administration, intralesional administration, intraligamentous administration, intralingual administration, intramammary administration, intramedullary administration, intrameningeal administration, intramyocardial administration, intranasal administration, intraocular administration, intraoperative administration, intraoral administration, intraosseous administration, intraovarian administration, intrapancreatic administration, intraparietal administration, intrapelvic administration, intrapericardial administration, intraperineal administration, intraperitoneal administration, intraplacental administration, intrapleural administration, intrapontine administration, intraprostatic administration, intrapulmonary administration, intrarachidian administration, intrarectal administration, intrarenal administration, intrascleral administration, intrascrotal administration, intrasegmental administration, intrasellar administration, intraspinal administration, intrasplenic administration, intrasternal administration, intrastromal administration, intrasynovial administration, intratarsal administration, intratesticular administration, intrathoracic administration, intratonsillar administration, intratracheal administration, intratubal administration, intratympanic administration, intraureteral administration, intraurethral administration, intrauterine administration, intravaginal administration, intravascular administration, intraventricular administration, intravertebral administration, intravesical administration, and intravitreous administration.

16. Use of a halogenated xanthene in the preparation of an intracorporeal medicament for high energy phototherapeutic treatment of human and animal tissue using applied ionizing radiation.

17. The use of Claim 16 for preparation of a medicament for the treatment of indications selected from the group consisting of conditions affecting the skin and related organs, conditions affecting the mouth and digestive tract and related organs, conditions affecting the urinary and reproductive tracts and related organs, conditions affecting the respiratory tract and related organs, conditions affecting the circulatory system and related organs, conditions affecting the head and neck, conditions affecting the endocrine and lymphoreticular systems and related organs, conditions affecting connective tissues, conditions affecting tissue surfaces exposed during surgery, and conditions related to microbial, viral, fungal, and parasitic infection.

18. The use of Claim 16 wherein said halogenated xanthene comprises Rose Bengal.

19. The use of Claim 16 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

20. The use of Claim 16 wherein said ionizing radiation is applied ionizing radiation is x-ray irradiation.

21. The use of Claim 16 wherein said ionizing radiation is applied ionizing radiation is gamma irradiation.

22. Intracorporeal use of a halogenated xanthene comprising:

administering a therapeutically effective amount of a halogenated xanthene into or proximate to human or animal tissue and irradiating the halogenated xanthene present within or proximate to said tissue with applied ionizing radiation.

23. The use of Claim 22 wherein said halogenated xanthene comprises Rose Bengal.

24. The use of Claim 22 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

25. The use of Claim 22 wherein said applied ionizing radiation is x-ray irradiation.

26. The use of Claim 22 wherein said applied ionizing radiation is gamma irradiation.

27. The use of Claim 22 wherein said halogenated xanthene is at a concentration of greater than approximately 0.001% to less than approximately 20%.

28. The use of Claim 22 wherein said administering comprises use of a route of administration selected from the group consisting of intravenous injection, intraperitoneal injection, intramuscular injection, intracranial injection, intratumoral injection, intraepithelial injection, transcutaneous delivery, per oesophageal administration, intraabdominal administration, intraapendicular administration, intraarterial administration, intraarticular administration, intrabronchial administration, intrabuccal administration, intracapsular administration, intracardial administration,

intracartilaginous administration, intracavitary administration, intracephalic administration, intracolic administration, intracutaneous administration, intracystic administration, intradermal administration, intraductal administration, intraduodenal administration, intrafascicular administration, intrafat administration, intrafilar administration, intrafissural administration, intragastric administration, intraglandular administration, intrahepatic administration, intraintestinal administration, intralamellar administration, intralesional administration, intraligamentous administration, intralingual administration, intramammary administration, intramedullary administration, intrameningeal administration, intramyocardial administration, intranasal administration, intraocular administration, intraoperative administration, intraoral administration, intraosseous administration, intraovarian administration, intrapancreatic administration, intraparietal administration, intrapelvic administration, intrapericardial administration, intraperineal administration, intraperitoneal administration, intraplacental administration, intrapleural administration, intrapontine administration, intraprostatic administration, intrapulmonary administration, intrarachidian administration, intrarectal administration, intrarenal administration, intrascleral administration, intrascrotal administration, intrasegmental administration, intrasellar administration, intraspinal administration, intrasplenic administration, intrasternal administration, intrastromal administration, intrasynovial administration, intratarsal administration, intratesticular administration, intrathoracic administration, intratonsillar administration, intratracheal administration, intratubal administration, intratympanic administration, intraureteral administration, intraurethral administration, intrauterine administration, intravaginal administration, intravascular administration, intraventricular administration, intravertebral administration, intravesical administration, and intravitreous administration.

29. A pharmaceutical composition for intracorporeal administration comprising a halogenated xanthene for high energy phototherapeutic treatment using applied ionizing radiation.

30. The pharmaceutical composition of Claim 29 wherein said halogenated xanthene is present in a concentration of greater than about 0.001% to less than about 20%.

31. The pharmaceutical composition of Claim 29 wherein said halogenated xanthene comprises Rose Bengal.

32. The pharmaceutical composition of Claim 29 wherein said halogenated xanthene comprises 4,5,6,7-Tetrabromoerythrosin.

33. The pharmaceutical composition of Claim 29 wherein said halogenated xanthene includes at least one compound selected from the group consisting of Fluorescein; 4',5'-Dichlorofluorescein; 2',7'-Dichlorofluorescein; 4,5,6,7-Tetrachlorofluorescein; 2',4',5',7'-Tetrachlorofluorescein; Dibromofluorescein; Solvent Red 72; Diiodofluorescein; Ethyl Eosin; Erythrosin B; Phloxine B; Rose Bengal; 4,5,6,7-Tetrabromoerythrosin; Mono-, Di-, or Tribromoerythrosin; Mono-, Di-, or Trichloroerythrosin; Mono-, Di-, or Trifluoroerythrosin; 2',7'-Dichloro-4,5,6,7-Tetrafluorofluorescein; 2',4,5,6,7,7'-Hexafluorofluorescein; and 4,5,6,7-Tetrafluorofluorescein.

34. The pharmaceutical composition of Claim 29 further comprising at least one targeting moiety coupled to said halogenated xanthene.

35. The pharmaceutical composition of Claim 34 wherein said targeting moiety is selected from the group consisting of deoxyribonucleic acid (DNA), ribonucleic acid (RNA), amino acids, proteins, antibodies, ligands, haptens, carbohydrate receptors, carbohydrate complexing agents, lipid receptors, lipid complexing agents, protein receptors, protein complexing agents, chelators, encapsulating vehicles, short-chain aliphatic hydrocarbons, long-chain aliphatic hydrocarbons, aromatic hydrocarbons, aldehydes, ketones, alcohols, esters, amides, amines, nitriles, azides, hydrophilic moieties and hydrophobic moieties.

36. The pharmaceutical composition of Claim 29 wherein said pharmaceutical composition is formulated in a delivery vehicle selected from the group consisting of liquids, semisolids, solids and aerosols.

37. The pharmaceutical composition of Claim 36 wherein said vehicle is selected from the group consisting of aqueous suspensions, non-aqueous suspensions, solutions, creams, ointments, gels, syrups, suppositories, tablets, capsules and micro-droplet sprays.

38. The pharmaceutical composition of Claim 29 wherein said halogenated xanthene is in a delivery vehicle that includes an adjuvant selected from the group consisting of builders, stabilizers, emulsifiers, dispersants, preservatives, buffers, electrolytes, tissue penetrating agents and tissue softening agents.

39. The pharmaceutical composition of Claim 29 wherein said applied ionizing radiation is x-ray irradiation.

40. The pharmaceutical composition of Claim 29 wherein said applied ionizing radiation is gamma irradiation.

41. A method of treating comprising:

applying an intracorporeal medicament including at least one halogenated xanthene into or proximate to human or animal tissue; and

applying ionizing radiation to said human or animal tissue to activate said halogenated xanthene present within or proximate to said tissue.

42. The method of Claim 41 wherein said human or animal tissue comprises the skin and related organs, the mouth and digestive tract and related organs, the urinary and reproductive tracts and related organs, the respiratory tract and related organs, the circulatory system and related organs, the head and neck, the endocrine and lymphoreticular systems and related organs, connective tissue, tissue surfaces exposed during surgery, and tissue with microbial, viral, fungal, or parasitic infection.

43. The method of Claim 41 wherein said step of applying ionizing radiation uses x-rays.

44. The method of Claim 41 wherein said step of applying ionizing radiation uses gamma rays.

45. The method of Claim 41 wherein said halogenated xanthene is Rose Bengal.

46. An intracorporeally-applicable medicament comprising at least one halogenated xanthene as a primary active component, wherein such medicament is useful for high energy phototherapeutic treatment, using applied ionizing radiation, of human and animal tissue.

47. A pharmaceutical composition adapted for intracorporeal administration to obtain a high energy phototherapeutic effect, comprising a dosage unit of a halogenated xanthene and an effective amount of applied ionizing radiation.

48. The pharmaceutical composition of Claim 47 wherein said applied ionizing radiation is x-ray irradiation.

49. The pharmaceutical composition of Claim 47 wherein said applied ionizing radiation is gamma irradiation.

50. The pharmaceutical composition of Claim 47 wherein said halogenated xanthene is Rose Bengal.